

Barak



Aligning the Print Head Plate with the Print Table

Technical Note – 10100147 Rev. B

Safety Procedures

Before reading this Technical Note, please refer to the section on Safety Procedures in the Barak User's Manual.

About this Technical Note

This technical note describes how to adjust the PRINT HEAD PLATE on the **Barak** printer.

Introduction

To achieve optimized print quality and as part of the printer adjustment procedures, the PRINT HEAD PLATE must be adjusted so that it is parallel with the PRINT TABLE.

Adjusting the Print Head Plate

1. Prepare a sheet of paper and draw a table as shown below.

Print Head Plate Height Table

Hinge #

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
BL	SR	BL	BR	BL	BR	BL	BR	BL	SR	BL	BR	BL	BR	BL	SR	BL	BR	BL	SR	BL	BR
FL	FR	FL	FR	FL	FR	FL	FR	FL	FR	FL	FR	FL	FR	FL	FR	FL	FR	FL	FR	FL	FR

BL: Back Left
BR: Back Right
FL: Front Left
FR: Front Right

2. The following tools must be prepared before proceeding:

- Feeler gauge (0.1 – 2 mm)

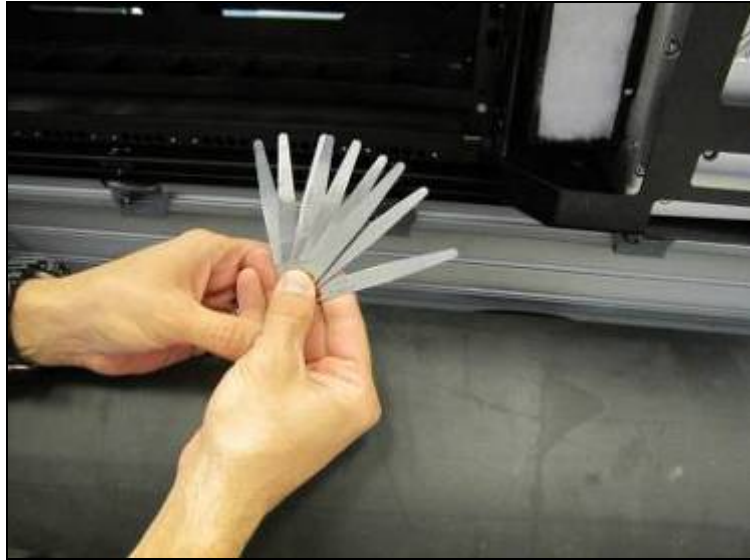


Figure 1: Feeler Gauges

- Four 2 mm shims



Figure 2: Shims

3. Shut down the printer.

4. Disconnect the X-MOTOR POWER and ENCODER CABLES, as shown below.



Figure 3: X Motor and Encoder with disconnected cables

5. Remove the CRASH PROTECTOR SENSOR (as shown below).

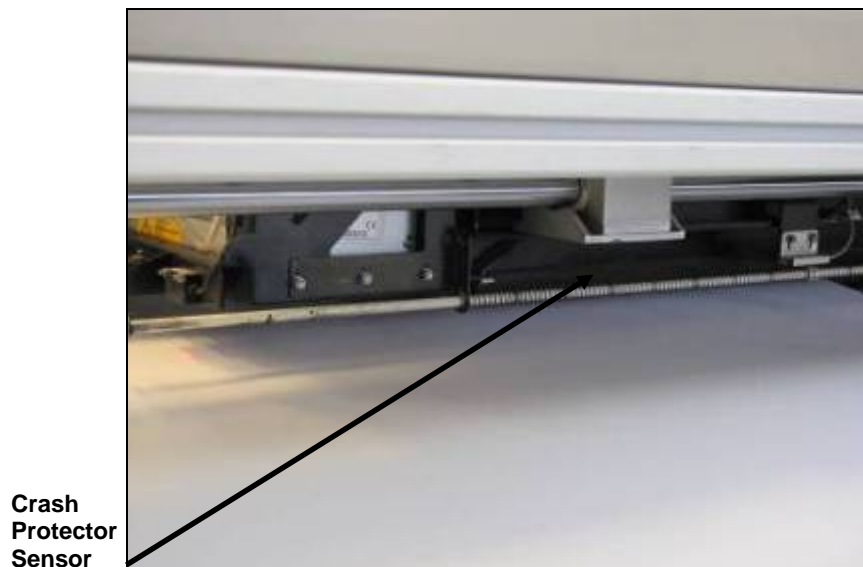


Figure 4: The Crash Protector Sensor

6. Power up the printer, but do not turn on the PC or/and open the Barak FE Application.
7. Raise the CARRIAGE to a safe height.
8. Manually move the carriage to the left, over the PRINT TABLE, until the mid-point is located above the 2nd hinge from the left, as shown by the white broken line in the second figure below.

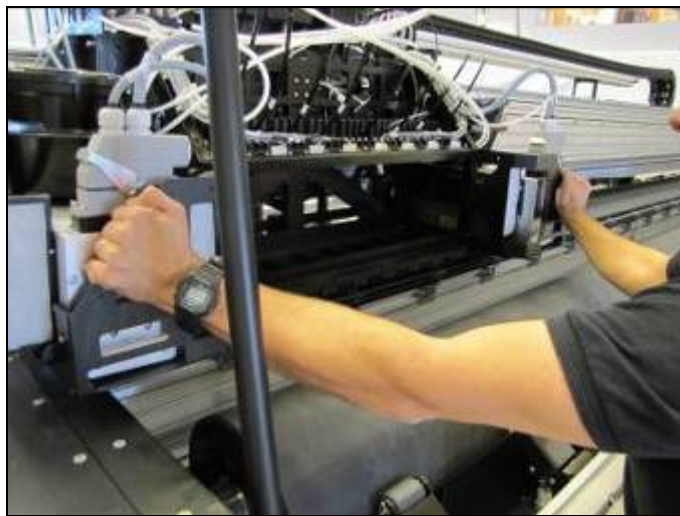


Figure 5: Manually Moving the Carriage

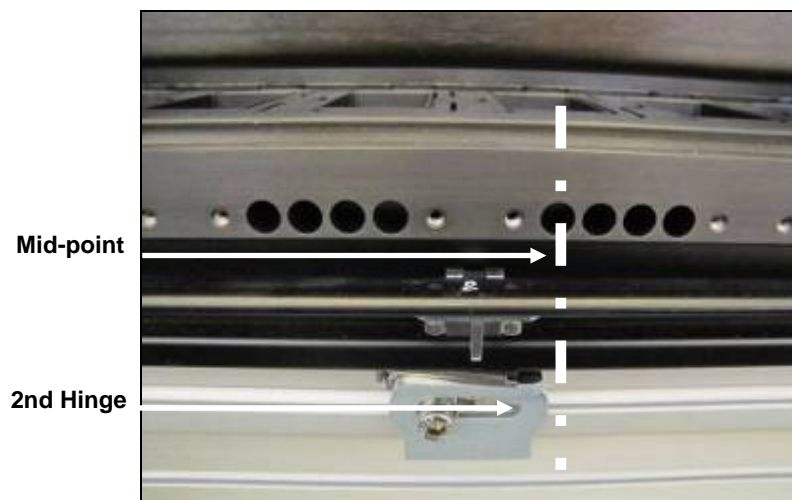


Figure 6: The Print Table's Mid-point

9. Insert a 2 mm shim (Figure 2, page 3,) under each corner of the PRINT HEAD PLATE.



Figure 7: Inserting a shim

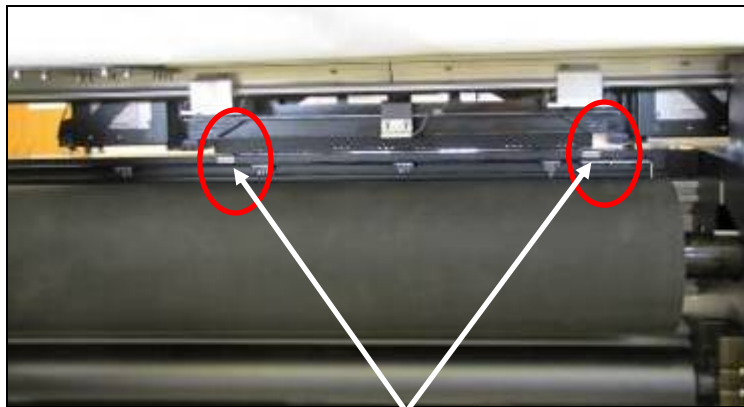


Figure 8: Two shims inserted at front corners of the Print Head Plate

10. Lower the CARRIAGE using the MOTOR SWITCH as shown below, until it just touches one or more of the shims in a way that you can still remove the shims without forcing them.



Figure 9: Lowering the Carriage using the Motor Switch

11. Remove the four shims from the PRINT TABLE.

12. Using the FEELER GAUGE, measure the gap between the PRINT HEAD PLATE and the PRINT TABLE, on each of the four corners, as shown below.



Figure 10: Measuring the gap between the Print Head Plate and the Print Table

13. Write down the measurements on the table you have prepared.

14. Manually move the CARRIAGE so that the PRINT HEAD PLATE'S mid-point is located over the next hinge.

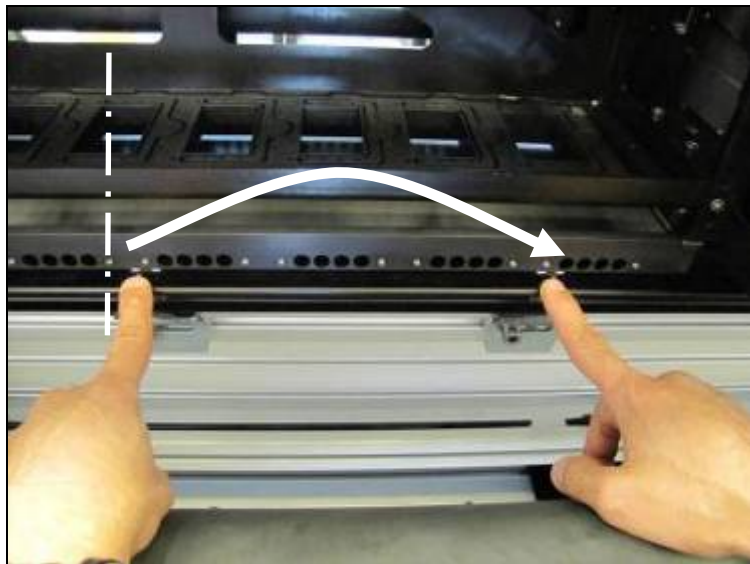
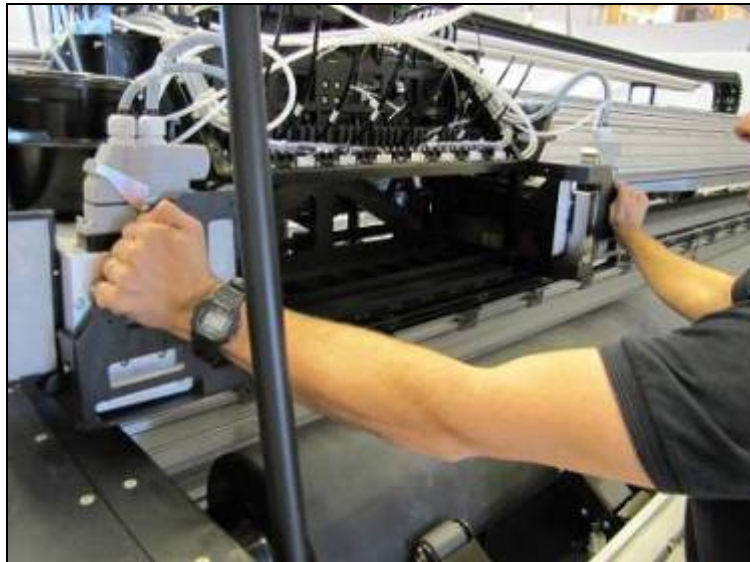
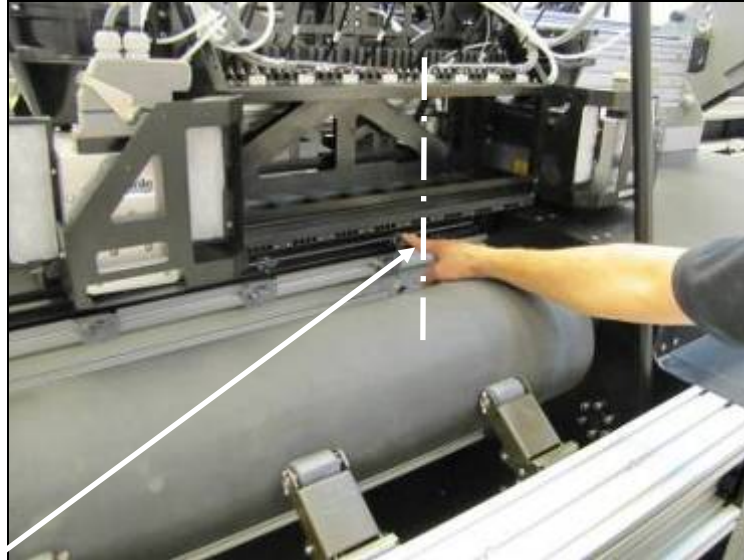


Figure 11: Manually moving the Carriage to the next Mid-point

15. Repeat steps #11, #12 and #13, until the PRINT HEAD PLATE'S mid point is located over the last hinge.



Last Hinge

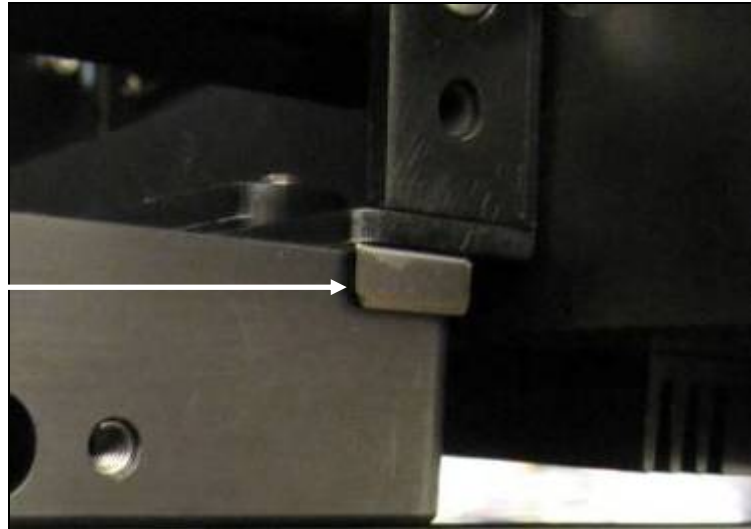
Figure 12: The Carriage at the last hinge

16. At this stage, carry out the final measurement only on the front and back left corners of the PRINT HEAD PLATE.
(The right corners are no longer above the PRINT TABLE.)
17. Analyze the results from the table.

The tolerance between the different measurements between the hinges and the PRINT HEAD TABLE, shouldn't exceed $\Delta=0.4$ mm. Meaning ± 0.2 mm, along the entire PRINT TABLE.

18. Review the results on the table and decide which corners have to be adjusted by adding or removing shims, between the CARRIAGE FRAME and the PRINT HEAD PLATE corners.

A Shim located at a corner



19. After adjusting the corners, repeat the complete procedure until the results fall within the tolerance.
20. Raise the CARRIAGE to a safe height.
21. Manually bring the CARRIAGE over the middle point of the PRINT TABLE and insert the 2 mm shims under the four corners of the PRINT HEAD PLATE.

22. Lower the CARRIAGE using the MOTOR SWITCH, until it just touches one or more of the shims in a way that you can still remove the shim without forcing it.



23. Adjust the CARRIAGE HEIGHT GAUGE to zero.



Figure 13: The Carriage Height Gauge

24. Adjust the two CARRIAGE STOPPER SCREWS.

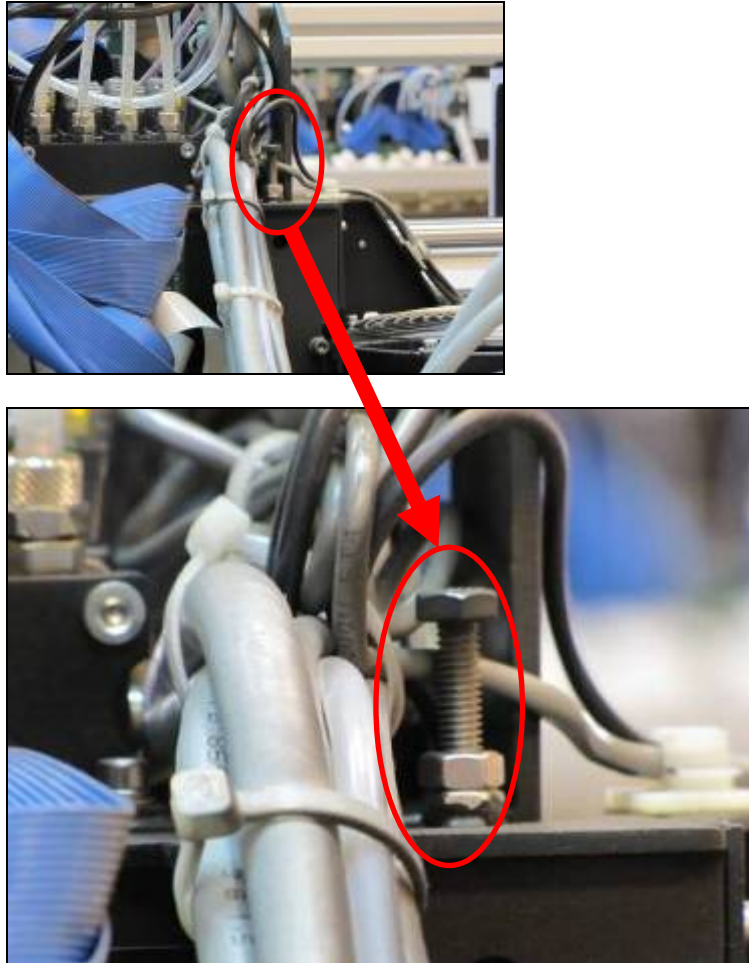
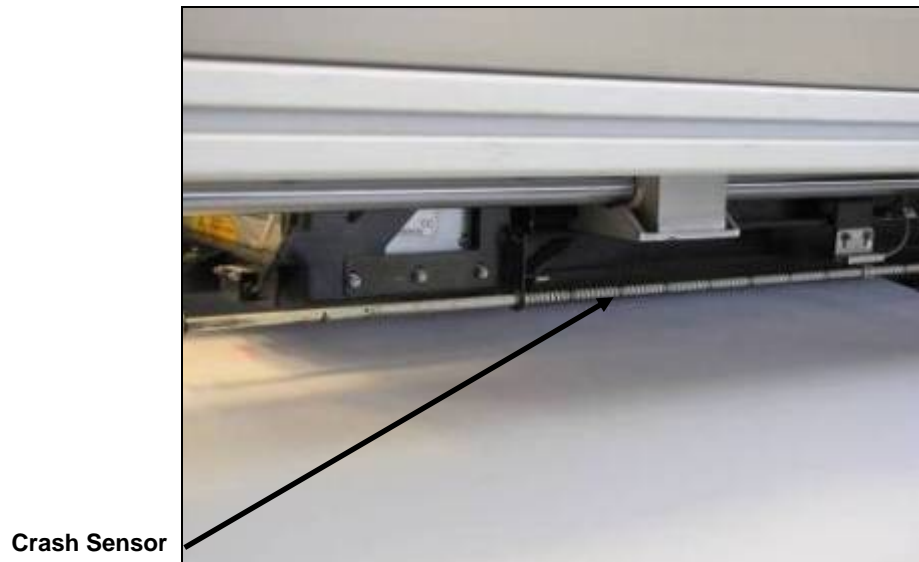


Figure 14: A Carriage Stopper Screw

25. Remove the four shims.

26. Shut down the printer.

27. Reassemble the CRASH SENSOR.



28. Manually return the CARRIAGE to the Home position, without touching the LIMIT SWITCH.

29. Reconnect the POWER and ENCODER X-MOTOR CABLES, as shown below.



30. Power up the printer.

Appendix A: Damage Report Form (not for Print Head)

Customer's Name:	
Address:	
Barak5 Printer S/N*	
Faulty Part Name	
Details of faulty part:	
Remarks:	
Signed:	
Name:	
Position in Company:	
Date:	

* The Printer's Serial Number is displayed on the label located at the rear of the printer near the left end of the rollers, as shown below.



Document History

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